

1 In the claims:

2 1. A method for providing a framework for document objects located on a network,  
3 the method comprising:

4 creating one or more link directories for storing link relationships between  
5 document objects located on the network;

6 enabling users of the network to create link relationships between a first  
7 document object located on the network and a second document object located on  
8 the network;

9 allowing users to assign attributes describing the link relationships and the  
10 document objects related by the link relationships; and

11 managing presentation to a user of link relationships between the  
12 document objects located on the network using the assigned attributes to  
13 determine which link relationships are presented to the user and the manner in  
14 which the link relationships are presented.

15 2. The method of claim 1, wherein the allowing step comprises:

16 defining one or more link relationship attributes describing the link  
17 relationships stored in the one or more link directories; and

18 assigning one or more link relationship attributes to each link relationship,  
19 wherein the one or more assigned link relationship attributes describe the link  
20 relationship as determined by the user assigning the link relationship attributes;  
21 and

22 storing the link relationships with the attributes in the one or more link  
23 directories located on the network separate from the document objects.

24 3. The method of claim 1, wherein the managing step comprises:

25 creating one or more user profiles, wherein the one or more user profiles  
26 specify one or more link directories and one or more attributes relevant to a user's  
27 interests;

28 retrieving from the one or more link directories one or more link  
29 relationships between a current document object accessed by the user and other  
30 document objects located on the network;

31 applying the one or more user profiles as filters against the one or more  
32 retrieved link relationships to determine which link relationships to present to the  
33 user; and

1                   presenting the retrieved and filtered link relationships to the user while the  
2                   user is accessing a document object.

3       4.       The method of claim 1, wherein the method further comprises permitting users of  
4       the network to access the one or more link directories;

5       5.       The method of claim 3, wherein the presenting step comprises ordering the link  
6       relationships presented to the user by link directories and by discrete attributes describing  
7       the link relationships.

8       6.       The method of claim 2, wherein the allowing step further comprises:  
9                   defining one or more document object attributes describing link references  
10                  to the document objects related by the link relationships stored in the one or more  
11                  link directories; and

12                 assigning one or more document object attributes to each link reference,  
13                 wherein the assigned document object attributes describe the document objects as  
14                 determined by the user assigning the document object attributes.

15       7.       The method of claim 6, wherein the step of assigning one or more relevant link  
16       relationship attributes comprises:

17                 choosing one or more document object attributes associated with the first  
18                 document object;

19                 choosing one or more document object attributes associated with the  
20                 second document object; and

21                 generating a link relationship attribute comprising a relationship between  
22                 the chosen document object attribute for the first document object and the chosen  
23                 document object attribute for the second document object.

24       8.       The method of claim 6, wherein the step of defining document object attributes  
25       further comprises defining one or more subordinate document object attributes associated  
26       with one of the document object attributes, wherein the one or more subordinate  
27       document object attributes further describe the document object attribute.

28       9.       The method of claim 6, wherein the step of defining document object attributes  
29       further comprises defining one or more common subordinate document object attributes  
30       associated with a plurality of document object attributes.

31       10.      The method of claim 9, wherein the managing step further comprises:

32                 filtering the retrieved link relationships by one or more of the common  
33                 subordinate document object attributes; and

1                   presenting the retrieved and common subordinate document object  
2                   attribute filtered link relationships to the user while the user is accessing a  
3                   document object.

4    11.    The method of claim 2, wherein the step of defining link relationship attributes  
5    further comprises defining one or more subordinate link relationship attributes associated  
6    with one of the link relationship attributes, wherein the one or more subordinate link  
7    relationship attributes further describe the link relationship attribute.

8    12.    The method of claim 2, wherein the step of defining link relationship attributes  
9    further comprises defining one or more common subordinate link relationship attributes  
10   associated with a plurality of link relationship attributes.

11   13.    The method of claim 12, wherein the managing step further comprises:  
12                   filtering the retrieved link relationships by one or more of the common  
13                   subordinate link relationship attributes; and  
14                   presenting the retrieved and common subordinate link relationship  
15                   attribute filtered link relationships to the user while the user is accessing a  
16                   document object.

17   14.    The method of claim 3, wherein the managing step further comprises permitting  
18   the user to identify link directories containing link relationships to the document object  
19   the user is accessing.

20   15.    The method of claim 3, wherein the managing step further comprises permitting  
21   the user to identify link relationships assigned a particular attribute.

22   16.    The method of claim 2, wherein one of the link relationship attributes identifies  
23   the user who created the link relationship.

24   17.    The method of claim 16, wherein the managing step further comprises presenting  
25   to the user link relationships created by an identified user.

26   18.    The method of claim 6, wherein one of the document object attributes identifies  
27   the entity responsible for the document object located on the network to which the  
28   document object attribute applies.

29   19.    The method of claim 18, wherein the managing step further comprises presenting  
30   to the user link references to document objects associated with an identified responsible  
31   entity.

32   20.    The method of claim 2, wherein one of the defined link relationship attributes  
33   identifies the entity responsible for one of the document objects.

- 1 21. The method of claim 20, wherein the user creating the link relationship is the
- 2 entity responsible for one of the document objects.
- 3 22. The method of claim 21, wherein the managing step further comprises presenting
- 4 a user of the network accessing a link relationship with the identity of the user creating
- 5 the link relationship and the identity of the entities responsible for the document objects.
- 6 23. The method of claim 3, wherein the step of presenting the retrieved and filtered
- 7 link relationships is restricted to authorized users.
- 8 24. The method of claim 2, wherein the allowing step further comprises defining valid
- 9 data types associated with each link relationship attribute.
- 10 25. The method of claim 24, further comprising validating link relationship attributes
- 11 assigned by users, the validating comprising matching defined valid data types to values
- 12 assigned to the link relationship attributes by users.
- 13 26. The method of claim 24, wherein the managing step further comprises permitting
- 14 users to specify a value or range of values for a selected attribute used to filter the
- 15 retrieved link relationships.
- 16 27. The method of claim 1, wherein the link relationship created by the user in the
- 17 enabling step comprises a link reference including a network address containing a
- 18 bookmark.
- 19 28. A computer readable medium upon which is embedded instructions for carrying
- 20 out a method for providing a framework for document objects located on a network, the
- 21 method comprising:
- 22 maintaining one or more link directories for storing link relationships
- 23 between document objects located on the network;
- 24 creating link relationships between a first document object located on the
- 25 network and a second document object located on the network;
- 26 allowing users to assign attributes describing a link relationship and the
- 27 document objects related by the link relationship; and
- 28 managing presentation of link relationships using the assigned attributes to
- 29 determine which link relationships are presented and the manner in which the link
- 30 relationships are presented.
- 31 29. The computer readable medium of claim 28, wherein the allowing step comprises:
- 32 defining one or more link relationship attributes describing the link
- 33 relationships stored in the one or more link directories; and

1            assigning one or more link relationship attributes to each link relationship,  
2            wherein the one or more assigned link relationship attributes describe the link  
3            relationship as determined by the user assigning the link relationship attributes;  
4            and

5            storing the link relationships with the attributes in the one or more link  
6            directories located on the network separate from the document objects.

7    30.    The computer readable medium of claim 28, wherein the managing step  
8    comprises:

9            creating one or more user profiles, wherein the one or more user profiles  
10          specify one or more link directories and one or more attributes relevant to the  
11          user's interests;

12          retrieving from the one or more link directories one or more link  
13          relationships between a current document object accessed by a user and other  
14          document objects located on the network;

15          applying the one or more user profiles as filters against the one or more  
16          retrieved link relationships to determine which link relationships to present; and

17          presenting the retrieved and filtered link relationships while a document  
18          object is accessed.

19    31.    The computer readable medium of claim 30, wherein the presenting step  
20    comprises ordering the link relationships presented by link directories and by discrete  
21    attributes describing the link relationships.

22    32.    The computer readable medium of claim 29, wherein the allowing step further  
23    comprises:

24          defining one or more document object attributes describing link references  
25          to the document objects related by the link relationships stored in the one or more  
26          link directories; and

27          assigning one or more document object attributes to each link reference at  
28          the time the associated link relationship is created, wherein the assigned document  
29          object attributes describe the document objects as determined by the user  
30          assigning the document object attributes.